



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2021-0272; Project Identifier MCAI-2020-01485-T; Amendment 39-21628; AD 2021-14-01]

RIN 2120-AA64

Airworthiness Directives; Bombardier, Inc., Airplanes

AGENCY: Federal Aviation Administration (FAA), Department of Transportation (DOT).

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for certain Bombardier, Inc., Model BD-100-1A10 airplanes. This AD was prompted by a report that certain airplanes have navigation units with outdated magnetic variation (MagVar) tables. This AD requires revising the existing airplane flight manual (AFM) and applicable corresponding operational procedures to update the flight management system (FMS) limitations. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: For service information identified in this final rule, contact Bombardier, Inc., 200 Côte-Vertu Road West, Dorval, Québec H4S 2A3, Canada; North America toll-free telephone 1-866-538-1247 or direct-dial telephone 1-514-855-2999;

email ac.yul@aero.bombardier.com; Internet <https://www.bombardier.com>. You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195. It is also available on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0272.

Examining the AD Docket

You may examine the AD docket on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0272; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, any comments received, and other information. The address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT: Thomas Niczky, Aerospace Engineer, Avionics and Electrical Systems Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7347; fax 516-794-5531; email 9-avs-nyaco-cos@faa.gov.

SUPPLEMENTARY INFORMATION:

Background

Transport Canada Civil Aviation (TCCA), which is the aviation authority for Canada, has issued TCCA AD CF-2020-33, dated September 29, 2020 (also referred to as the Mandatory Continuing Airworthiness Information, or the MCAI), to correct an unsafe condition for certain Bombardier, Inc., Model BD-100-1A10 airplanes. You may examine the MCAI in the AD docket on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0272.

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain Bombardier, Inc., Model BD-100-1A10 airplanes. The NPRM published in the *Federal Register* on April 12, 2021 (86 FR 18921). The NPRM was prompted by a report that certain airplanes have navigation units with outdated MagVar tables. The NPRM proposed to require revising the existing AFM and applicable corresponding operational procedures to update the FMS limitations. The FAA is issuing this AD to address outdated MagVar tables inside navigation systems, which can affect the performance of the navigation systems and result in the presentation of misleading magnetic heading references on the primary flight displays (PFDs) and multi-function displays (MFDs), positioning the airplane outside of the terrain and obstacle protection provided by instrument flight procedures and flight route designs, and can lead to significantly inaccurate heading, course, and bearing calculations. See the MCAI for additional background information.

Comments

The FAA gave the public the opportunity to participate in developing this final rule. The FAA received no comments on the NPRM or on the determination of the cost to the public.

Conclusion

The FAA reviewed the relevant data and determined that air safety and the public interest require adopting this final rule as proposed, except for minor editorial changes.

The FAA has determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM for addressing the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

Related Service Information under 1 CFR Part 51

Bombardier has issued the following service information. This service information describes procedures for revising the existing AFM to update the FMS limitations. These documents are distinct since they apply to different airplane configurations.

- Flight Management System (FMS) limitation in Section 02-04 - Systems Limitations, of Chapter 02 - Limitations, of the Bombardier Challenger 300 Airplane Flight Manual (Imperial Version), Publication No. CSP 100-1, Revision 58, dated January 15, 2020. (For obtaining the FMS limitation for Bombardier Challenger 300 Airplane Flight Manual (Imperial Version), Publication No. CSP 100-1, use Document Identification No. CH 300 AFM-I.)
- FMS limitation in Section 02-04 - Systems Limitations, of Chapter 02 - Limitations, of the Bombardier Challenger 300 Airplane Flight Manual (Metric Version), Publication No. CSP 100-1 (Metric), Revision 58, dated January 15, 2020. (For obtaining the FMS limitation for Bombardier Challenger 300 Airplane Flight Manual (Metric Version), Publication No. CSP 100-1 (Metric), use Document Identification No. CH 300 AFM-M.)

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

Costs of Compliance

The FAA estimates that this AD affects 318 airplanes of U.S. registry. The FAA estimates the following costs to comply with this AD:

Estimated costs for required actions

Labor cost	Parts cost	Cost per product	Cost on U.S. operators
1 work-hour X \$85 per hour = \$85	\$0	\$85	\$27,030

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a "significant regulatory action" under Executive Order 12866,
- (2) Will not affect intrastate aviation in Alaska, and
- (3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive:

2021-14-01 Bombardier, Inc.: Amendment 39-21628; Docket No. FAA-2021-0272; Project Identifier MCAI-2020-01485-T.

(a) Effective Date

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to Bombardier, Inc., Model BD-100-1A10 airplanes, certificated in any category, serial numbers 20003 through 20407 inclusive, equipped with FMC-5000 flight management computers.

(d) Subject

Air Transport Association (ATA) of America Code 34, Navigation.

(e) Unsafe Condition

This AD was prompted by a report that certain airplanes have navigation units with outdated magnetic variation (MagVar) tables. The FAA is issuing this AD to address

outdated MagVar tables inside navigation systems, which can affect the performance of the navigation systems and result in the presentation of misleading magnetic heading references on the primary flight displays (PFDs) and multi-function displays (MFDs), positioning the airplane outside of the terrain and obstacle protection provided by instrument flight procedures and flight route designs, and can lead to significantly inaccurate heading, course, and bearing calculations.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Revision of the Airplane Flight Manual (AFM)

Within 60 days after the effective date of this AD: Revise the existing AFM and applicable corresponding operational procedures to incorporate the information specified in the Flight Management System (FMS) limitation in Section 02-04 - Systems Limitations, of Chapter 02 - Limitations, of the applicable AFM, specified in figure 1 to paragraph (g) of this AD.

Figure 1 to paragraph (g) – AFM Revision

Bombardier, Inc., Model–	AFM–	Publication No.–	Revision–	Dated–
BD-100-1A10 airplanes	Bombardier Challenger 300 Airplane Flight Manual (Imperial Version) ¹	CSP 100-1	58	January 15, 2020
BD-100-1A10 airplanes	Bombardier Challenger 300 Airplane Flight Manual (Metric Version) ²	CSP 100-1 (Metric)	58	January 15, 2020
¹ For obtaining the FMS limitation for Bombardier Challenger 300 Airplane Flight Manual (Imperial Version), Publication No. CSP 100-1, use Document Identification No. CH 300 AFM-I. ² For obtaining the FMS limitation for Bombardier Challenger 300 Airplane Flight Manual (Metric Version), Publication No. CSP 100-1 (Metric), use Document Identification No. CH 300 AFM-M.				

(h) Other FAA AD Provisions

The following provisions also apply to this AD:

(1) *Alternative Methods of Compliance (AMOCs)*: The Manager, New York ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or responsible Flight Standards Office, as appropriate. If sending information directly to the manager of the certification office, send it to ATTN: Program Manager, Continuing Operational Safety, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; fax 516-794-5531. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the responsible Flight Standards Office.

(2) *Contacting the Manufacturer*: For any requirement in this AD to obtain instructions from a manufacturer, the instructions must be accomplished using a method approved by the Manager, New York ACO Branch, FAA; or Transport Canada Civil Aviation (TCCA); or Bombardier, Inc.'s TCCA Design Approval Organization (DAO). If approved by the DAO, the approval must include the DAO-authorized signature.

(i) Related Information

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) TCCA AD CF-2020-33, dated September 29, 2020, for related information. This MCAI may be found in the AD docket on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0272.

(2) For more information about this AD, contact Thomas Niczky, Aerospace Engineer, Avionics and Electrical Systems Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7347; fax 516-794-5531; email 9-avs-nyaco-cos@faa.gov.

(j) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.

(i) Flight Management System (FMS) limitation in Section 02-04 - Systems Limitations, of Chapter 02 - Limitations, of the Bombardier Challenger 300 Airplane Flight Manual (Imperial Version), Publication No. CSP 100-1, Revision 58, dated January 15, 2020.

(ii) FMS limitation in Section 02-04 - Systems Limitations, of Chapter 02 - Limitations, of the Bombardier Challenger 300 Airplane Flight Manual (Metric Version), Publication No. CSP 100-1 (Metric), Revision 58, dated January 15, 2020.

(3) For service information identified in this AD, contact Bombardier, Inc., 200 Côte-Vertu Road West, Dorval, Québec H4S 2A3, Canada; North America toll-free telephone 1-866-538-1247 or direct-dial telephone 1-514-855-2999; email ac.yul@aero.bombardier.com; Internet <https://www.bombardier.com>.

Note 1 to paragraph (j)(3): For obtaining the FMS limitation for Bombardier Challenger 300 Airplane Flight Manual (Imperial Version), Publication No. CSP 100-1, use Document Identification No. CH 300 AFM-I.

Note 2 to paragraph (j)(3): For obtaining the FMS limitation for Bombardier Challenger 300 Airplane Flight Manual (Metric Version), Publication No. CSP 100-1 (Metric), use Document Identification No. CH 300 AFM-M.

(4) You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email fedreg.legal@nara.gov, or go to: <https://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued on June 21, 2021.

Lance T. Gant, Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

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